

AMERICAN RAILROAD JOURNAL, AND GENERAL ADVERTISER

FOR RAILROADS, CANALS, STEAMBOATS, MACHINERY
AND MINES.



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Correspondents will oblige us by sending in their communications by Tuesday morning at latest.

PRINCIPAL CONTENTS.

New York Canals.....	801
Manufacture of Iron.....	801
Lachine Canal.....	801
Schoykill Coal Trade.....	802
Items.....	802
Gravelled Roads.....	802
The Mining and Railroad Interests.....	802
Baltimore and Ohio Railroad.....	803
Gauge, or Width of Track for Railroads.....	808

AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, December 18, 1847.

A WORD TO ALL.

Missing Numbers.—We again remind our subscribers that we shall cheerfully supply missing numbers for the current and past volumes—if we have them to spare—on receiving a list. It is much more easy to supply them now than at any future period.

If we have omitted to comply with any of the applications heretofore made for missing numbers, it has arisen from inability at the time—not from indisposition—it may therefore be worth the labor of furnishing a new list, as we have received many loose numbers of back volumes, from which they may possibly be supplied.

Warming Railway Cars.

Tappen Townsend, of Albany, N.Y., has patented a mode of warming railroad cars. He says, "what I claim as my invention, and desire to secure by letters patent, is the application to railroad passenger trains, of the combination of the flues, connected by the elastic and flexible hose, with the openings and registers in the bottoms of the cars."

Improved Method for Ascending and Descending Inclined Planes.

Mr. G. E. Sellers, of Cincinnati, Ohio, has invented a method of ascending and descending inclines, by having a central rail and driving wheel to grip the rail connected with a spring to give them the required adhesion on the rail. He also connects the driving wheels by toggle joint levers whereby the train is made to act upon the gripping wheels, and yet leaves the locomotive free in a measure without any strain, and in the event of the engine breaking the connection with the train, there are arms on each side that are caught by chain or joint

rods to arrest the progress, forwards or backwards of the train in a decent or ascent.

New York Canals.

It is said that the amount of tolls on the canals of the State of New York this year will reach about \$3,650,000, being an increase of nearly a million of dollars over the tolls of last year—which will leave a large surplus to be applied towards enlarging the Erie canal and completing the Black river and Genesee valley canals.

The amount of tolls collected on the canals since the opening of navigation on the Erie canal in 1820 up to the present time—a period of 28 years—is over thirty-seven and a half millions of dollars.

The increase of business on the canals is shown by a comparison of the tolls received in 1826 (the year after the completion of the Erie and Champlain canals) with those of the present year, viz:

1826—tolls.....	\$762,003
1847—tolls.....	3,650,000
Increase.....	\$2,887,997

It must not be forgotten, however, that the rates of toll have been reduced nearly one-half since 1826.

Manufacture of Iron.

We copy the following description of Mr. Alexander Dickerson's plan of manufacturing malleable iron, from the Scientific American.

"Improvement in apparatus, by Alexander Dickerson, of Newark, N. J., for the manufacture of malleable iron. Patented 13th March, 1847. Re-issued 21st August, 1847. Claim.—What I claim as my invention, and desire to secure by letters patent, is: first, the method of manufacturing malleable or wrought iron direct from the ore, by means of a furnace, combining a chamber containing the charge of ore and fuel, with a closed forged fire below the same and communicating therewith, containing a continuation of the charge and the lump of wrought iron formed therein; said forge fire being provided with a large door for the introduction of a portion of the charge for shutting in and confining the charge, excluding the air therefrom during the process, removing the lump when formed, and clearing out the fire preparatory to another charge. Secondly, the use of moveable bars or slides in combination with the said closed forge fire and chamber, inserted and passing through the charge, to serve as a temporary grating to sustain the upper portion of the charge, or a new charge, while the lower portion is burning down and the lump is taken out."

Lachine Canal.

The Montreal Herald gives the following account from a correspondent, of the opening of the Lachine canal. The writer says: "To-day, 19th instant"—but we are not certain whether it was in October or November—"the new lock here, called the Guard Lock, was opened for the first time, thus allowing large craft to descend to Montreal. The first craft locked down was a barge, the property of Hilyard & Walker, containing 1673 barrels of flour, besides some butter, etc.; the first locked up were three steamers, viz: the Beagle, Princess Royal and Catawqui. This lock, which may be said to be finished, measures 900 feet from gate to gate, 45 feet wide. Passing through the lock, you ascend a channel 190 feet wide and 10 deep; 2700 feet of this channel required excavation, which was principally effected this summer. On the left, as you ascend for about 3900 feet, is the coffer dam, which served to dry the channel till it was excavated, and now retains the water; it is constructed of two lines of cribs, each 12 feet wide, leaving a space of six feet between for a puddle chamber.

"It is partly surrounded by a receding stone wall rising above high water mark, and measuring about 23 feet on top. The rest of the wall is in a forward condition, and when finished will form an agreeable promenade to those living in or visiting Lachine."

Tire for Railroad Wheels.

The following mode for making tire for railroad wheels has been patented by Messrs. Saunders, Bisset and Saunders. They say that the following is their mode of procedure, viz: "A pile of iron and steel is made as follows—first a large bar of iron, then a thin bar of steel, then another bar of iron, the latter being thin, and serving only as a protection to the steel from being burnt in the process of welding, the whole is then welded. The bar is then passed through a series of rollers giving the required shape to the tire, shrunk on to the wheel, and the thin plate of iron turned off to expose the steel to the surface."

Iron Ship Ribs.

Mr. Richard F. Loper, of this city, has made an important improvement in ship building, whereby he uses hollow iron ribs, instead of timber, or solid iron ones, and binds them together by wooden plank-ing, thereby combining strength with buoyancy and lightness. The ribs being hollow, he uses them as canals to lubricate the bolts and fastenings by pouring oil through the hollow ribs, thereby preventing the rotting of planks, and oxidation of the metal.

Schuylkill Coal Trade.

PHILADELPHIA AND READING RAILROAD—Amount of coal transported during the week ending Thursday, December 9, 1847.

	Tons. cwt.
From Port Carbon.....	6,977 00
" Pottsville.....	2,246 01
" Schuylkill Haven.....	11,190 12
" Port Clinton.....	2,960 10

Total for week..... 23,374 03
Previously this year..... 1,283,709 04

Total..... 1,307,083 07

HENRY M. WALKER,
Supt. Coal Tr. P. & R. R. Co.

SCHUYLKILL NAVIGATION—Week ending December 9, 1847.

	Tons. cwt.
Pottsville and Port Carbon.....	756 13
Schuylkill Haven.....	381 00
Port Clinton.....	00 00

This week..... 1,137 12
Previously..... 231,751 09

Total..... 232,889 01

Items.

The route for the Cochecho railroad, from Dover, N. H., to the line of the Montreal railroad, at Meredith, 44½ miles, has been surveyed, and found feasible. The total cost of the road, including engines, cars, etc., is estimated at \$1,032,000.

On the Michigan Central railroad, the receipts from September 24th, 1846, to October 31st, 1847, were \$534,205. The increase in the month of October, as compared with last year is equal to 33 per cent.

The receipts on the Georgia railroad for October, are said to have exceeded those of last year by \$1,689.

On the Mad River and Lake Erie railroad, \$38,120 were received from passengers in the year ending October 16th, and \$70,667 from freight. The length of the road is 134½ miles, of which 102 are in operation. We understand that within a short time 12,000 shares of company stock have been disposed of in the Boston market, the proceeds of which will enable the company to prosecute the work to completion without any further delay. The contracts for completing this road to Springfield have all been let—the work to be completed by the 1st of May, 1848.

We learn from the Eaton Register, that sufficient stock has been subscribed in the Eaton and Hamilton railroad to enable the corporators to organize, and proceed with their business. The distance from Eaton to Hamilton is 26 miles.

The Cincinnati Gazette observes that "these Preble county people will put the Cincinnati and Hamilton directors in the shade, if they do not soon bestir themselves to obtain the right of way, and place their line under contract."

The citizens of Montgomery, Ia., are making an effort to have a railroad constructed from Crawfordsville to intersect the Indianapolis and Lafayette railroad at Thorntown or Lebanon.

We learn from the Crawfordsville People's Press that a railroad meeting was held in that place on the 23d ult., Hon. Isaac Naylor in the chair, and T. W. Fry secretary. The meeting was severally addressed by S. C. Wilson, T. W. Fry and W. Bausman; and a committee, consisting of one person from each township, was appointed, with power to appoint aids, to visit different portions of the county and obtain subscriptions.

The great increase on the Little Miami railroad

has rendered a double track a matter of necessity; and the work will be commenced immediately.—About twelve hundred tons of iron have already arrived.

There has been a final decision upon the location of the road from Columbus—Xenia being the terminus and not Springfield. The Little Miami railroad company make the road out of Greene county about 16 miles. The road from Columbus to London will be placed immediately under contract, and the whole line pushed, as far as practicable, so as to have it completed at the earliest possible date. The Cleveland people are making active exertions to finish their link to Columbus, and thus Cincinnati has a good prospect of having two lines of railroads completed to the lake in two years—one terminating at Sandusky, the other at Cleveland. As the Mad river road will be finished early next season to Springfield, that will have the start.

The Connecticut river railroad company are engaged in surveying a route for a branch road to Amherst. The Northampton Gazette says that the survey on one line has been completed, and the distance found to be six and a half miles. The route is a very feasible one, being nearly level.

Engineers are also engaged in surveying a route for a railroad from the line of the Boston, Concord and Montreal railroad, near Union bridge, through Upper Gilmanton, over the "hollow route," London, Pembroke, etc., to Manchester.

Thus we perceive that the people of New England are alive to the importance of the early extension of the railroad system.

Gravelled Roads.

The Coburg, Canada, Star, says that "about two years ago the Hon. Z. Burnham persuaded the authorities to grant permission to the path-masters of this township to commute the statute labor, i. e., to take money instead of work, and lay it out on the roads as they deemed most advisable. In consequence, several patches of road were gravelled three inches deep and sixteen feet wide, for 5s. a rod! and those who had occasion to travel over them three months after they were made, will bear us out in stating that finer pieces of road could not be made. Last Fall and Spring they were excellent, while other parts of the road were almost impassable.—Young Mr. Hare, and Mr. John Clark, of Haldimand, had, some time previous to the permission to commute statute labor, by their praiseworthy exertions, managed to get that portion of road between Kelly's and Hammond's hill, gravelled about four inches in depth. Since that period it has been as smooth as a bowling green.

"As to the assertion that 'gravel roads are not fit to use under a twelvemonth from the time of formation,' we would direct the attention of the public to the piece between Burnet's corner and Perry's mills, made only a month ago, now almost perfectly smooth. As to the expense, it cost about 9s. a rod to gravel nine inches deep.

"To render gravel roads fit for immediate use, it is only necessary to throw about an inch of earth (sand loam is best) on the top of the gravel.

"It is only fair to state, that before we were convinced by experience of the superiority of gravel over plank, we were very much prejudiced in favor of the latter."

If we are not mistaken, it requires constant attention to the surface of gravelled roads to keep them smooth, and to prevent the formation of ruts or channels by the wheels; whereas, plank roads, properly made, require very little repair for a long time, and heavier loads may be taken over them.

The Mining and Railroad Interests.

It has been feared by many that the railroad interest is progressing more rapidly than the means of the country—indeed of the world—will warrant.—The question has been often asked, "where is the capital to be obtained to complete these works?" It may we think safely be answered—though we have not yet seen the response—that the increased produce of the mines at the present day, over those of twenty-five years ago, is more than sufficient to cover the cost of all the railroads now in use, or in course of construction. If this be so—and we have not a doubt of it—we may look for a vast and continued extension of both these interests, as the facilities afforded by railroads will ensure a constantly increased extension of the mining, as well as of the agricultural and commercial interests of the country, and these in turn re-act upon, and cause an extension of the railroad interest.

We are led to these remarks by an article in the London Mining Journal of 16th October, entitled, "The Silver and Gold Mines of the New World—or the future prospects of the mines of America compared with those of Europe."

We have frequently noticed these articles in that able Journal, and have concluded to re-publish some of them, by way of keeping pace with the progress of the age, in this important department of the industry and wealth of the world.

The writer says:

"If, instead of taking the total production, we take the annual extraction, the Russian Empire will appear in a much more advantageous position. At present, to speak only of gold: suppose the American production to be represented by 100, that of Russia is 144. As the washings of Asiatic Russia are extending incessantly, and as the field in which they take place seems infinite, we are still far distant from the amount which will be obtained. We must expect that shortly, through Russia, the general production of gold will approach the treble of what appeared at the end of the last century on the market of the world. This increase of the extraction must, after a certain delay, bring about a decline in price, because, unless there be a rapid development of wealth among the populations of countries, the means of employing this mass of gold would soon cease to be found, and the offer would thus exceed the demand. In other terms, in supposing that silver should remain at the same point with respect to corn, gold would not be worth more than 15, or 14 or 12 times its weight in silver. The relative value of the two precious metals (I do not speak of the absolute value, nor of the value in relation to that of objects of the first necessity,) would approach what it was among ancient nations, or before the discovery of America. In another point of view, the decline in the venal value of gold could not sustain itself, except in so far as the cost of production should have diminished, for otherwise the production would stop; but when we think on the surprising progress which the mechanical arts make every day, we cannot doubt that the selling price of gold will undergo a reduction, provided the deposits remain the same. Thus the decline, if it should take place, would not be likely to lessen the extraction. Moreover, some time must needs elapse before a production of gold, even triple

that of the commencement of the century, will cause an important reduction in the current price of that metal.

The quantity of gold which exists among civilised nations is so great, that an annual addition of 40,000 kilogrammes, beyond what was ordinarily disposed of previous to 1823, would not rapidly augment the mass in a very sensible manner, and would not affect the value until after a certain delay. This is proved by the fact, that when, 25 years ago, England obtained a sum of more than 1,000,000,000*l.*, representing 300,000 kil. of pure gold, in order to coin gold money to replace bank notes, which alone had been in circulation since 1797, the price of gold was not sensibly affected in commerce. And then civilisation is in the vein for peace, which it may be believed that the senseless verbiage of retrograde passions will not induce it to abandon. By peace, easy circumstances and cultivation gain ground among the people—a little elegance and luxury introduces itself among all ranks of society. That is sufficient to secure an easy investment for a production of gold more considerable than that of the present day, without its being necessary for the extractors to occupy themselves with the decline in the value of gold. Before every person in Europe, male and female, shall have a gold watch, gold ring or a gold cross, Siberia has sufficient margin left it.—And why, with the aid of peace, should we not come to that?

Nor must we expect that gold will sustain a decline in value comparable to that which may be foreseen, with respect to silver, for a period still uncertain, unless some new El Dorado shall be discovered, in which the conditions of working shall be completely changed. The extraction of this metal does not afford ground for the same extensive improvements as the extraction of silver, which is barbarous in America, the principal centres of production. In this point of view, England, whose metallic specie is in gold, is not exposed to the same loss as France, whose real money is only in silver.

Production of Silver in Spain.—On the old continent, Russia is not the only state which has increased its production of precious metals. The progress has been almost general among such of the European states as possess them. The success which Russia has obtained has been striking, incomparable. Nevertheless, it will be seen that some other nations have also made progress worthy of being cited. At the commencement of the century, Europe, without counting Russia, (which we here take in its whole extent, both to the east and west of the Oural mountains) yielded, in pure metal, 1300 kilogrammes of gold, and 52,670 kilogrammes of silver. In 1835 the quantity of gold was about the same, but the production of silver was increased by about 15,000 kilogrammes. The production of gold and silver in Europe was, in 1835, as at the commencement of the century, concentrated in Germany, and in the lower part or the valley of the Danube—that is, to speak more precisely, in the Hartz mountains, in Hanover, in those of Erzgebirge, which are

divided among Saxony, Bohemia, and Prussia, in Hungary and Transylvania—the last two countries, let us repeat, having pretty nearly the monopoly of gold. Out of Germany, and the valley of the Danube, there was not produced, in 1835, more than 10,000 kilogrammes of silver, of a value of about 2,000,000*l.*, and from 20,000 to 25,000 kilogrammes of gold. Industry, which, since 1835, has taken a great extension in Europe, has paid more attention to the precious metals than it had previously done. At present, only little is wanting to make the production of silver double what it was in 1835. The principal cause of this development is, that Spain, which possesses important silver mines, formerly very celebrated, has again begun to work them.

The mines of gold, and particularly of silver, in Spain, have enjoyed great celebrity. Strabo, whose exactitude is better appreciated every day, states the fecundity of them.—Long before him, the prophet Ezekiel had signalized it in his threatening prophecies against Tyre. The deposits of silver in the peninsula were worked with success under the Moors, as under the Romans. Since the country has had more liberty, the working has been resumed, and, at the same time, the numerous beds of coal, with inexhaustible mines of iron, which nature has placed in the Asturias, close to the sea, have begun to be worked with vigor.

The mines of lead, containing silver, situated in the kingdoms of Murcia and Granada, at a short distance from the Mediterranean, are those which formerly yielded, and still yield, a great quantity of silver. The lead, however, is not always associated with silver. The mines of Sierra de Gador, situated behind Almeria, which have yielded as much as 39,000,000 kilogrammes of lead, and still yield from 13,000,000 to 14,000,000 kilogrammes do not contain silver; but the mines which are behind Carthagenia, particularly at Almazarron, and still more particularly those that are worked in a little vale, called the Baranco Jaroso, in the Sierra Almagrera in the kingdom of Granada, have a yield of silver very remarkable, being 1 per 100 with respect to the lead. Having been successively visited by several very intelligent French engineers, the mines of the south of Spain were, in 1845, worked anew by M. Pernolet director of the mines of Pouliouen, in Brittany. According to this gentleman, the single mines of the Sierra Almagrera yield at present, at least 40,000 kilogrammes of silver, and consequently the total extraction of the whole peninsula cannot be estimated at fewer than 50,000 kilogrammes.

As to gold, the yield of the peninsula is quite insignificant. It may, however, be considered probable that the extraordinary success of the washings of gold in Asiatic Russia will cause searches to be made for that metal in all the countries in which that was formerly done. Success exercises a fascinating power on the heart of man. The example of success sometimes gives rise to the most extravagant enterprises; and, for a stronger reason, it warrants attempts which

possess tolerable chances of success. There would be nothing unreasonable henceforth in attacking, with the means which science indicates, and which Russia every day improves, the alluvions which were formerly renowned for the gold which they contained. They exist some, not only in the Iberian peninsula but also in France, at the foot of the Pyrenees, which formerly made a good yield, especially in the valley of the Ariège, in which the characteristic circumstances of the deposit of gold in Siberia appear to exist. Ireland is also quoted."

Assuming the opinion of the writer to be correct, in relation to the increase of gold and silver, there will not be a lack of means to increase and extend the railroad interest.

Baltimore and Ohio Railroad.

Superintendent's Report.

We recently published the annual report of the President of this company—and now we commence that of the Engineer and General Superintendent, B. H. Latrobe, Esq.

At the close of the last fiscal year of this company, some changes were introduced in its management, and this is the first report of the General Superintendent. It goes much into detail, and will be found both interesting and useful; therefore we shall give the whole of it, except, perhaps, some of the tables.

OFFICE OF CHIEF ENG. AND GEN. Supt.

Baltimore and Ohio Railroad.

Baltimore, October 1, 1847.

Hon. LOUIS McLANE, President, etc.

SIR:—The following statements descriptive of the operations of this company in the several branches of the service, during the official year ending yesterday, are respectfully submitted as the first annual report of the undersigned, acting as General Superintendent under the new organization established since the last annual meeting of the stockholders. The subjects to be presented will be arranged under these heads:

I. The working of the line east of Cumberland—which will be subdivided into,
1st. The maintenance of the road and its appurtenances.

2d. The maintenance of the machinery.

3d. The conduct of the transportation.

4th. The revenue expenditures and trade.

II. The reconstruction and improvement of the old road—under the heads of,

1st. The laying of the new track.

2d. The alterations in the location of the road bed.

III. The extension of the road.

1st. West of Cumberland.

2d. East of Mount Clare.

In treating of the first of these divisions, reference will be had to the operations of former years upon this road, and also to those of other lines elsewhere, in order that such comparisons may be made as will enable the proprietors of the enterprise to judge of the manner in which its affairs have been administered.

Before proceeding with the details which follow, it will be proper briefly to advert to the change in the organization of the service above referred to, and which embraced every branch thereof, with the view of making it

commensurate with the increased extent and complication of the business of the road.

The new system went into operation upon the first of May last in all its provisions but that which relates to the mode of keeping the accounts of the tonnage department, which it has been necessary to postpone, until the necessary facilities at the several stations for accurately weighing every article offered for transportation, should be provided, which will now shortly be done.

When this improved organization, with its better distribution of duties and subordination of authority and its more perfect checks in the collection and disbursements of the revenue, shall have been sufficiently long in operation to familiarise all the officers and agents with its details, and when all the requisite additional conveniences for the transaction of the business of the road shall have been completed, it is not doubted that a considerable advance in the general economy of the work will be realized.

The out door working of the road is now in charge of a general superintendent, with three subordinate departments, of road, machinery and transportation, while the in-door financial and accounting branch of the service is administered by a secretary and treasurer, the whole operations and earnings of the road being recorded and preserved in the most concentrated and convenient form, at the company's principal office in Baltimore,—the whole transactions, both out and in-door, being under the eye and control of the president and board.

I proceed now to present an account of the operations which are under the direction of the general superintendent, and of their results, as shewn in the receipts, expenditures and net income of the line, together with such statements as are proper, respecting the manner of disposing of such part of the latter as has been re-invested in the work, and thus converted from income into capital.

1. OF THE WORKING OF THE ROAD.

Taking its divisions in the order already given; and speaking separately of the main stem and Washington branch, and of the former first:

The Main Stem.

1st. *The Maintenance of the Road.*—Embracing the repairs and renewals.

1st. The road-bed and railway tracks. 2d. The bridges. 3d. The depot buildings. 4th. The water stations.

The expense of watching wooden bridges and pumping water at the stations not supplied by the natural flow of the stream, are separately exhibited in the account of expenditures, and will be noticed under their appropriate heads.

1. *The Road Bed and Railway Tracks.*

The bed of the road, which for some time after the completion of the graduation is always a source of expense in the removal of washes and slides, and the raising of embankments, is now, after the lapse of 17 years, for the section east of Harper's Ferry, and about six years for the section west of that point, in a well consolidated state. The culverts and drains have had their capacity well

tested by floods, and most of them have been found to pass the water well. Nevertheless, several, even upon the older part of the road, have proved too small, and, in consequence of damage received from the frequent high water of the past year, three large culverts between the Point of Rocks and Harper's Ferry, constructed (and in a very imperfect manner) in 1834, have required to be rebuilt. It is believed that there are but few culverts now left upon the line which will need a similar re-construction, and that this item will hereafter be a light one in the expense account. In reference to the bed of the road, generally, it is gratifying to know that it is ready, without further expense, to receive a second track, whenever the traffic shall be so increased as to require it; which cannot be said of all the railroads in the country, some of which, and among them one of such importance as the Western railroad of Massachusetts, were graded, originally, for but a single track for most of their length, and have still before them the outlay required to widen them throughout for a second.

The Railway Tracks.—Upon the main stem, there were, at the commencement of the present year, (Oct. 1st, 1846,) as follows:

Plate rail track, east of Harper's Ferry, laid in 1830-34, 87 miles.

H rail track, east of Harper's Ferry, laid in 1838, 19 miles.

Q rail track, west of Harper's Ferry, laid in 1841-42, 97 miles.

Q rail track, east of Harper's Ferry, laid in 1846, 5 miles.

* Total number of miles, in main and second tracks, inclusive of lateral and double track, east of the Monocacy, and exclusive of sidings, 208 miles.

There have been laid, east of Harper's Ferry, since the 1st of October, 1846, 25 miles of Q rail track, in completion of the 30 miles of that track authorized last year; and about 11 miles of the same description of track have been brought into use since the 1st of June last, in the prosecution of the re-construction of the 31 miles authorised this year, so that the account stands thus, at this date, October 1st, 1847:

Plate rail track, east of Harper's Ferry, laid in 1830-31, 51 miles.

H rail track, east of Harper's Ferry, laid in 1838, 19 miles.

Q rail track, west of Harper's Ferry, laid in 1841-42, 97 miles.

Q rail track, east of Harper's Ferry, laid in 1846-47, 41 miles.

Total number of miles as before, 208.

So that, during the year just expired, the number of miles of plate rail track has been reduced 36, and that of Q rail track increased a corresponding number. When the whole of the 31 miles of the latter track, now being laid, shall be put down, which is expected early in the coming year, there will be but 31 miles of the old flat-bar road remaining, inclusive of the two miles of main track in the city of Baltimore, and the three miles of the lateral track to Frederick.

The cost of the current repairs of the track thus composed of these different kinds of

structure, has been, for the twelve months, ending September 30th, as follows: The number of miles of each kind is the average kept up through the year; the Q rail east of Harper's Ferry increases in extent just as the plate rail decreases. In the column of "cost per mile," the upper figures set opposite each description of track show the cost, inclusive of that of keeping the bed of the road in order, which would be the same for any track; and the lower figures show the cost of maintaining the track alone, exclusive of that of the road bed.

Appropriation of the Cost of Repairs of Railway among the different descriptions of Track upon the Baltimore and Ohio Railroad, during the year ending September 30th, 1847.

Description of TRACK.	No. of Miles.	Cost of Labor.	Cost of Lumber.	Cost of Iron Bars.	Cost of Castings.	Cost of Bolts and Spikes.	Miscellaneous.	Deduction for old materials sold and stock on hand.	Average cost per mile.	Total Cost.
Plate Rail,	65	\$27,391 68	\$18,855 98	\$13,229 55	\$960 14	\$4,275 76	\$1,614 17	\$3,371 65	968 876	\$62,956 63
H Rail,	19	5,606 04	1,704 84		480 00	534 00	599 67	1,314 00	406 382	7,710 55
Q Rail east of H. Ferry,	27	8,531 16	174 06		200 00	156 16	495 00	1,725 00	230 198	7,831 38
Q Rail west of H. Ferry,	97	22,375 18	29,095 04		1,446 65	1,411 30	2,906 79	6,984 00	498 446	49,252 96
Totals,	308	\$70,904 06	\$41,829 92	\$13,229 55	\$3,084 79	\$6,378 22	\$5,615 63	\$13,290 65	614 533	\$127,751 52

This division of the expenses among the different sorts of track is not precise; but it is sufficiently exact to show pretty correctly the relative expense of maintaining them during the year—From this comparison it may be inferred, that if the whole 87 miles of plate rail track with which the year was commenced had been continued throughout it, instead of having an average of 27 miles of it supplanted by the new Q rail track, the expense of repairs would have been \$18,306 greater than they were, and that if the new track had wholly superseded the old, the saving would have been \$44,070. The cost

of the repairs of the track during the preceding year, ending September 30th, 1846, were \$115,566 46, after deducting \$579,03 for increase of the value of the stock of materials accumulated during the year. The expense of repairs is therefore greater this year than the last, by \$12,185 06, notwithstanding the assistance derived from the new track east of Harper's Ferry.

This is to be accounted for in two ways: 1st. The more extensive renewal of perishable material. 2d. The increased wear and tear from increased trade.

Under the first of these heads it is to be observed that in all tracks, into the construction of which wood enters, decay has its regular periods, the intermissions of which correspond to the time for which the material will endure exposure to the weather and other agents of destruction. This period with the sort of timber generally used in railways, is from six to eight years. Where it is put perfectly green into the track, as was the case with the road west of Harper's Ferry, it is shorter. The past year, for that part of the road, has been the sixth, and the present will be the seventh year of duration, and these will have been the years of greatest expense in its renewal, and by the end of the eighth year, terminating October 1st, 1849, the whole wooden part of that section, 97 miles in length, will have been renewed. The periods of decay and renovation will not however come round so regularly hereafter; as much of the timber put into the track in 1841 and '42 was of inferior quality, from the impracticability of procuring better, in the haste of first construction. This timber began to decay after it had been but three years in the track, and thus the process of renewal was commenced before the arrival of the regular period appropriate to the sort of lumber used upon other sections of the road and to be used hereafter. This will lead to a more uniform distribution of renewals for the future, and by procuring and storing as it is proposed, the required lumber during the year preceding its use, the length of its duration will be materially extended. The 19 miles of H rail track, laid in 1838, are now, also, requiring large renewals of the cross ties and sills upon which it is laid, and which have been of a description of wood more durable than that used west of Harper's Ferry, has lasted longer.

The durability of the longitudinal pieces of timber has thus far appeared to be about equal to that of the cross ties.

Under the second head of wear and tear, the reason of the increased cost of repairs is still more remarkably manifest, the trade of the road during the past year being more than fifty per cent. greater than that of the one preceding it. These two causes would suffice to account for a much larger increase than has actually taken place, as will be apparent upon comparing the cost of maintenance road per ton and per passenger per mile, in the tabular statement appended to this report, for which 1846 was 249-1000 cents and 603-1000 of a cent, and in 1847, 181-1000 cents, and 422-1000 cents respectively—a re-

duction of twenty-seven per cent. upon the former, and thirty per cent. upon the latter, in favor of the year just expired.

THE BRIDGES.

This head of expenditure has shown a large and important one for the last three years—principally on account of the necessity of rebuilding most of the many wooden viaducts upon the line. Of these numerous and extensive structures, the aggregate length is 4115 feet, in spans varying from 40 to 150 feet, besides 1633 feet of trestle bridging at Harper's Ferry, making the whole length of timber bridging 5748 feet, or 1.09 miles.—They carry the road across eleven large rivers and three smaller streams intersected by the route.

They were built originally with a view to much lighter locomotives and trains than those since traversing the road. They were also built of materials, the best to be had at the time, but not offering the choice in quality which is now open, and put into the work with but little seasoning. Decay consequently soon commenced while the increasing weight and frequency of the trains imposed a duty which required increasing instead of diminishing ability to perform. The result has been that, although some of these viaducts have suffered much more than others, yet that an entire reconstruction of the whole has been considered expedient rather than a resort to a less thorough renovation, which would have been less safe, and in the end more expensive. In this, no pains and expense have been spared to render them capable of performing the severest duty that can ever be required of them, and entire success has been the result. All the new work has stood the tests of its strength completely—and the most difficult and extensive structure of the whole, the wide arch at Harper's Ferry has now borne the trade of the road under the most trying circumstances for two years without exhibiting the smallest weakness in any of its parts. A very important part of the improvements applied to the new structures consists in covering them from the weather and providing for the seasoning of the timber more perfectly than before, and their protection, it is believed is now so effectual as to secure them against all the usual causes of decay, and to render them as durable as if built of stone or iron. The agent of destruction remaining to be guarded against is fire, and this danger can only be averted by a vigilant watch, the employment of which will always be indispensable, but the expense of which will not increase with the trade of the road and will thus be a diminishing tax upon it.

In dividing the whole cost of the bridge account, under the heads of "improvements" and "current repairs," I have been guided by the experience of the first two years of their duration, after the opening of the road from Harper's Ferry to Cumberland in 1842, during which period they cost, in 1843, \$6,455, and in 1844 \$6,248, making an average of \$6,351 to maintain them in repair. This is about one-ninth or eleven per cent. of what they have cost per annum to rebuild them in

the three subsequent years, and I am satisfied that with their new and vastly superior structure, they may be kept in perpetual repair, under any future increase of trade, for what it cost—say \$6,351 per annum to maintain them under the light traffic of the two first years of their existence—in 1843 and 1844.

The whole cost of maintaining and rebuilding bridges in the year ending September 30th, 1847—was \$65,363 74. From this we deduct \$5,105 79 for the cost of rebuilding culverts, destroyed by floods, and for other masonry, and there will be left \$60,257 95 for wood and all other work. From this there must be taken \$7,819 29, on account of the increase of materials on hand, compared with the stock reported September 30th, 1846—and there is left \$52,438 66, as the entire outlay for work done upon wooden viaducts this year. Estimating, as above, the sum of \$6,431 for ordinary annual repairs, and deducting it from the whole expense of the work, there remains \$46,007 66, as the cost of permanent improvements properly chargeable to capital and considered as an investment in the work.

Before leaving this subject it is right to state that the experience of all other roads of heavy trade in the United States is in regard to their wooden bridges, the same. They were built too slightly in the first place, and have required to be reconstructed or strengthened in such a way as to amount to reconstruction—and I may add that all the experience of those companies, as well as that of this, has gone to demonstrate the soundness of the principles upon which the bridges of the Baltimore and Ohio railroad are built.

3d. *Depot Buildings.*—This department of the company's works exhibit much variety in style and material, some of the buildings being very substantial, commodious, and well looking, while others are equally remarkable for the cheap and perishable way in which they were put up. The two principal engine houses and most of the work shops at the Mount Clare depot, together with the car-house there—the depot houses at Ellicott's Mills, Frederick, Harper's Ferry and Baltimore are of the former character,—while the engine houses at Harper's Ferry and Cumberland, and the tonnage and passenger houses at the latter point are the frame structures hastily erected at and soon after the opening of the road in 1842, when the means of the company were for the time exhausted. The maintainance of these slight buildings is, of course, costly in proportion to their deficiency in the qualities of durable work, and the cost of repairs must be expected to be heavy so long as there is so much that is frail in their composition. The total expenditure under this head during the year just closed is \$16,522 72, and after adding \$226 54, for the diminished value of materials in store for future work, amounts to \$16,596 26—being \$6,006 55 greater than during the year 1846. This sum was expended chiefly in the early part of the year, in the considerable alterations and additions made to the buildings on Pratt street, including a complete new set of

scales of enlarged size and improved pattern for weighing merchandise, to replace the old and inferior scales, which had been in service many years. I would also observe that upon examining this account I perceive that much of the work which has been charged to it, would more appropriately have fallen under the head of "improvements" than "repairs," as it was in fact entirely new and additional in its character, and has added permanently to the company's property.

Watching Bridges.—The cost of this attendant upon the timber viaducts was \$7,049 65 for the past year—exceeding that of the year previous by \$370 15—due to the employment of an additional watchman for the night, upon the Harper's Ferry viaduct, made necessary by the running of the night trains through this bridge (which is the only bridge with gates upon the line, and upon which tolls are collected.) It will not be practicable to diminish this expense while the bridges are of a combustible material; but on the other hand it is an expense not subject to increase with the trade.

4th. Water Stations.—There are thirty-one water stations upon the main stem of the road, including that at Baltimore, and they are well built and durable. Eighteen of them are supplied by pipes conducting the water from springs, and at thirteen the water is pumped by hand or horse power. The cost of maintaining the former is very moderate—that of keeping up the latter is more considerable—the two together amount to \$2,890 08 for the year, being \$770 32 more than those of the previous year—chiefly due to permanent improvements in the pumps and other fixtures of the stations.

Pumping Water.—The expense of this operation for the last year has been \$3,061 68 being but \$165 37 greater than the year before, notwithstanding the greatly increased consumption of water. This is an expensed but little dependent on the quantity of water used at each station, as the hire of the labor must be paid, whether in full or partial occupation.

THE WASHINGTON BRANCH.

Maintenance of Road.—In speaking of this head of expenditure upon the branch of Washington, it is not necessary to go into the details just stated in regard to the main stem.

1st. The Road Bed of the branch is in good condition, annually improving as the deep cuts become less subject to slides and washes.

2d. The Railway Track is also in good order, and the part of it originally laid upon logs, and inferior to the rest in its structure, is now nearly removed. The repairs under these two heads, (after deducting \$22 48 for increase in stock of materials on hand,) have cost \$18,077 88, being \$31 93 more than those of 1846.

3d. The Bridges are all of stone, and have been a source of no expense during the year. A square culvert, near the Laurel Factory, which was swept away by a severe flood, has been replaced by a stone arch, with greatly increased water way. The past year's expenditure, under this head, has been

\$1,908 48, and is \$145 27 greater than that of the preceding year.*

4th. Depots.—The only buildings belonging to the Washington branch are those in the city of Washington. The tonnage house is a substantial building and sufficient for the present business. The engine house, though sufficiently well built, is however too small, and the passenger house very deficient in suitable accommodation for so important a station. It has, however, been much improved by some recent alterations in its arrangement, executed while the building was undergoing some necessary repairs. The repairs of depots this year have been \$951 46; being \$23 56 less than those of 1846.

5th. Water Stations.—There are six water houses on this road, of which, four are supplied from springs, and two by pumps. Of the former, two have been long since rendered useless by the failure of the sources of supply; but they are not needed in the working of the road. The pump houses are also used only occasionally, and in case of failure of the others. Repairs in 1847, \$413 39, being \$257 54 greater than in 1846.

SUMMARY.

The whole cost of maintaining the road bed and railway, bridges, depots, and water stations, including pumping water and watching bridges during the year, ending September 30th, 1847, upon the main stem, has been.....

As charged upon the books, but from which must be deducted the increase in the value of the stock of materials on hand, accruing during the year, and amounting to.....

Leaving the true cost of maintaining the road and buildings.....

Which is \$18,305 14 more than that of the previous year; and upon the Washington branch the maintenance of the same department has been at a cost of.....

Reduced by the sum expressing the increased value of materials.....

And showing the actual expense of maintenance to have been.....

Which is \$411 18 greater than that of the preceding year. The increase, in both cases, will be seen to be not out of proportion to the increased service rendered to the public and the profits of the trade.

2d. Maintenance of the Machinery.—This department divides itself into four heads; 1st, locomotives, engines and tenders; 2d, passenger cars; 3d, burden cars; 4th, stationary, machinery and shops.

1. Locomotives and Tenders.—The whole number of engines belonging to the company

* Note.—Since writing the above, a freshet has occurred, (on the 7th of October) which has destroyed two of the bridges, the Little Patuxent and North West Branch viaduct; and also carried away the new arched culvert near the Laurel Factory, and several other culverts. This casualty will be suitably noticed in the next annual report, as belonging to the current year. The inundation was the highest upon record since the settlement of the country, in the streams crossed by these structures, and the damage to other public works has been extensive. The main stem of this road, however, suffered but little, the injury being chiefly confined to the Patterson bridge, 13 miles from Baltimore, one of the piers of which was injured, but without interrupting the use of the bridge.

is, at this date, 49; divided into four classes, according to their weight and power—there are of the

Class	tons	wheels	rated at	class
1st, weighing 23, on 8, all drivers, 13,	23	8	13	39 of the 4th
2d, weighing 16½ on 8 and 6, do. 2,	16½	8 and 6	2	4 of the 4th
3d, weighing 15, on 8, all drivers, 12,	15	8	12	18 of the 4th
4th, do. 10, on 6 & 8, 2 & 4 do. 22,	10	6 & 8	2 & 4 do. 22	22 of the 4th

Total,.....49 83

Of the first class, 12 were built by Ross Winans, and one in the company's shop at Mount Clare—of the second, one was built by M. W. Baldwin, and the other rebuilt in the company's shop, from a lighter engine constructed by Eastwick & Harrison—of the third class, four were built by Eastwick & Harrison, three by the New Castle Manufacturing Company, (one of them since rebuilt in the company's shop,) four by Ross Winans, (two of them with upright boilers and horizontal cylinders,) and one by Wm. Norris—of the fourth class, 13 are of the old upright boiler and cylinder patterns, built by Davis & Winans, prior to 1837, and nine are of the manufacture of William Norris. These engines, various as they are in weight and form, are all useful machines in their several degrees. Those of the first class burn Cumberland coal, for which their furnaces are specially adapted; and so do the upright boiler engines of the third and fourth class. The rest burn wood, or a mixture of wood and coal. The passenger trains on both roads were originally drawn by the horizontal six-wheel engines of the fourth class, for which they became too heavy two or three years since, and now eight-wheeled engines of the third class are chiefly used for them; and upon the main stem even these are so often inadequate to the duty that the alternative, will soon be presented, of running more frequent trains, or of using heavier engines, or assistant power, upon the higher grades. Of the third class engines, eight are of a make suitable for passenger trains; six of these ply upon the main stem, three with passengers, constantly, and three ordinarily with freight; the remaining two are regularly employed in the two principal passenger trains upon the Washington branch.

Of the freight engines of the several classes, the whole number are at work upon the main stem, excepting three of the fourth class used on the Washington branch; one of these last is attached to the morning mail train, to Washington, and returns with a load of freight and passengers.

There are thus at work upon the main stem, forty-four engines of all classes, and upon the Washington branch, five, making up the number of forty-nine, as above stated, and equivalent, in their power and performance, to 83 of the fourth or lightest class, first used upon the road. I have considered it useful to make the preceding statement of the company's motive power establishment, not only that its present extent may be fully exhibited, but that its progress, from the lighter to the heavier locomotives, for its passenger as well as freight business, may be observed, with a corresponding advance in the economy of transportation consequent thereupon, as will be shown.

PERFORMANCE IN MILES RUN.

The duty performed by these engines has been as follows in miles run on the main stem:

13 first class engines, with freight trains,	307,586
2 second class engines, with freight trains,	21,702
10 third class engines, with freight trains,	115,885
third class engines, with passenger trains,	129,838
19 fourth class engines, with freight trains,	312,944
The same engines, with passenger trains,	17,031

44 engines of all classes, with passengers and freight, have run.....808,026

On the Washington branch:

2 third class engines, with passenger trains,	44,784
3 fourth class engines, with passenger trains,	15,925
The same engines, with freight trains,	40,652

5 engines of both classes, with passengers and freight, have run.....101,361

49 engines of both classes, with passengers and freight, have run.....909,387

The whole stock of 49 engines have, therefore, run, during the year ending the 30th September, ultimo, nine hundred and nine thousand, three hundred and eighty-seven miles, being an average of 18,550 miles to each engine.

The average of the thirteen first class engines, with freight alone, has been 15,968 miles—of the two second class, with freight alone, 12,351 miles—of the twelve third class, with freight and passengers together, 24,209 miles—of the twenty-two fourth class with freight and passengers together, 17,572 miles. From these numbers, however, deductions respecting the relative efficiency of the respective classes cannot be legitimately drawn, as some of each of the three first classes were placed upon the road since the beginning of the year, and consequently were not at work during the whole period. Had all of these engines been at work the full twelve months, the number of miles run by each class would have stood; for the first class, 18,220—second class, 13,654—third class, 25,485, and of the fourth class as before, 17,572 miles. The operations of the three third class engines, exclusively employed upon the passenger trains for the main stem, show satisfactorily their capacity in the performance of this description of duty; and it has amounted to the running of 109,154 miles for the three; or an average of 36,385 for each—the lowest being 33,122, and the highest 39,435. The average is at the rate of 100 miles a day for every day in the year, which is a most satisfactory performance—and the more highly to be appreciated, when the crooked line and imperfect structure of much of this road is considered. The number of miles run by the passenger engines, it will be observed, is much greater than that of the tonnage. This is no indication of inferior duty performed by the latter, but is the obvious result of the greater speed and lighter load of the passenger engines, and very much also of the greater regularity of the passenger business. It must be remarked that the duty of the second class engines appears so much less than that of the other classes, not from inferior efficiency, but from other circumstances which have given the two engines of this class less to do than they could have accomplished. This is particularly to be

said of the engine of this class which has done the work of the Mount Savage road; this engine being, in fact, one of the best in the service.

PERFORMANCE IN TONS HAULED ONE MILE.

By this, the only perfect mode of expressing the duty of the engines, it would appear that the 44 engines employed in hauling freight have drawn one mile within the year an average of 652,207 tons upon the Main stem and Washington branch together, excluding the five engines of the third class which have been altogether engaged (three on the Main stem, and two on the Washington branch) in the passenger business, and converting the passengers hauled by those engines of the third and fourth class usually employed in the freight business into tons, at 12 passengers to the ton. The 44 freight engines of all classes being expressed by their equivalent in engines of the fourth or lightest class, would be represented by 75½ engines of that class—of which 72½ would belong to the Main stem and three to the Washington branch—and each of these engines would have drawn one mile on both roads an average of 380,094 tons in the period of twelve months. This tonnage includes materials and fuel distributed along the line for the company's use. If that be excluded, and the freight for which compensation has been received be alone considered, the performance of each engine expressed in its equivalent of the lightest class will have been 337,671 upon the Main stem and Washington branch, which if all the engines upon the road had been upon it the whole 12 months, would have been increased 4½ per cent, or to 352,863 tons one mile.*

COST OF REPAIRS OF LOCOMOTIVES.

Main Stem.—The whole amount charged to the account for the past year is, \$74,139 51—from which must be deducted \$3,119 28—for increase in stock of materials and duplicate parts of machinery—and the net amt, showing the actual outlay for the maintenance of the engines, is \$71,020 23. This is greater than the corresponding amount for the preceding year by \$14,969 06—and the increase is sufficiently accounted for by the addition to the number of the engines and the work done by them. The average number at work during the year 1846 was equivalent to 53½ of the fourth class, and during the year 1847 was equivalent to 74. Consequently the number of engines is greater by 39 per cent. The duty in tons and passengers carried one mile is also greater by 65 per cent, while the increase in repairs is but 27 per cent. During the past year the "improvements" in the engines were about equal in value to those which took place during the previous year, and amounted to some \$10,500. By this expenditure, included in the above amount of \$71,020 23, nine of the fourth class engines were thoroughly rebuilt, five of them of the old upright boiler four-wheeled pattern of Winans & Davis, and four of the six wheeled horizontal pattern of Wm. Norris—besides

* NOTE. There have been placed upon the road, since October 1, 1846, 5 engines of the 1st, 1 of the 2d, and 2 of the 3d class.

which two other engines, one of the first and another of the fourth class, had copper furnaces applied to them.

The cost of repairs per mile and per ton per mile has been nearly as follows for the several classes:

	Per mile run.	Per ton drawn.
1st class.....	11-97 cents..	1696 of a cent per mile
2d ".....	7-18 " ..	1512 " "
3d ".....	7-22 " ..	3506 " "
4th ".....	8-07 " ..	3573 " "
General average—		
for all classes..	8-78 cents..	2505 of a cent per mile.

In this exhibit, the second class engine appears to have the advantage of the first, which in its turn, has greatly the advantage of the third and fourth. The comparison is not however a fair one, as between the first and second. As the only two second class engines in the service have been but a year at work, while the 13 first class engines have been an average of not less than two years upon the road, and have labored under some imperfections, in their smaller parts which have now been remedied. But for these circumstances and also, in a measure, the state of the road upon which the engines have run, and to the fact that the first class engines have been worked much harder than the second, it is not doubted that the economy of the first class in repairs, would have been considerably greater than that of the second.

Washington Branch.—The cost of repairs of locomotives, for the year just ended on this road, is charged at \$10,117 46; to which must be added \$1,034 52, for reduction in the value of materials on hand, making the true cost \$11,151 98, being \$954 13 less than the preceding year.

The cost of repairs per mile and per ton per mile, has been nearly as follows:

	Per mile run.	Per ton carried.
3d class.....	8-3 cents....	14500 cents per mile
4th ".....	13-14 "	6415 " "
General average—		
for both classes..	11 cents....	7887 cents per mile.

The third class engines on this road have run altogether with passengers, which are here expressed by their equivalent in tons, at 12 to the ton. The cost per ton per mile is therefore large, as the tonnage is necessarily so light compared with dead freight. The fourth class engines have run with both freight and passengers. Their cost of repairs is also high, both per mile and per ton per mile. This is due to the fact that two out of the three engines of this class have been rebuilt during the year, after nearly ten years service. The general average cost of repairs and renewals of all classes of engines upon both roads, has been 10-14 cents per mile, and 30-97 of a cent per ton per mile. In the preceding fiscal year, ending September 30, 1846, the general result upon the Main stem was 8-4 cents per mile run, and 3270 of a cent per mile per ton carried, against 8-78 cents and 2505 cents in the year just ended; the increase of cost per mile run being but 4½ per cent.; and the decrease upon the cost of the real duty performed being 23½ per cent. This comparison simply shows how much more rapidly the useful effect of the motive power increases than the cost of obtaining that increase.

To be Continued.

Gauge, or Width of Track for Railroads.
Report on the Gauge for the St. Lawrence
& Atlantic Railroad. By A. C. Morton,
Esq., Chief Engineer.

Continued from page 793.

The distance from Montreal by your main line to Portland, thence to Boston by steamboat or railroad, is but a trifle more than by your branch line, the Passumpsic, the Northern, the Concord, and other roads to the same point.

Between Portland and Boston there are steam vessels plying constantly, summer and winter. Passengers and all description of freight are carried on these steamboats at very low rates, in consequence of the competition with each other, and with the railroads.

A competition must always exist on this route between rival lines of boats and railroads, which will continue to keep the rates low for all time to come. It is well known that transportation can be done by steamboats and propellers at lower rates than by any other means of conveyance.

The facilities for the transshipment of freight at the Atlantic terminus, from your cars to vessels, will be of the cheapest and most superior character.

The location of the terminus is such as to afford more ample means and accommodations for an extended business, than perhaps any other railway terminus on the continent.

A connection with the roads extending from Portland to Boston is contemplated, by which a choice of conveyance is at all times afforded to merchandize and passengers going in that direction, while another connection with the eastern part of Maine and the lower provinces is in progress, opening a communication for trade and travel going eastward.

If the object is to reach Boston with merchandize from the interior or to forward it from Boston to the interior, there can be no doubt but that it can be carried cheaper on this line than by any other route to the St. Lawrence.

Although the distance from Boston by this route may be somewhat greater than by others, yet one-fourth of the whole distance between Montreal and Boston being by the cheapest mode of communication in existence and the remaining portion of the route being a continuous line of railway of great excellence and capacity, there is little reason to doubt the superior economy of this route.

If it is desirable to ship merchandize for Europe or any part of the United States, its delivery at Portland harbor gives in all respects equal or superior advantages.

With regard to importations made while the navigation of the St. Lawrence is closed, it may be observed that the more easterly position of Portland harbor and the greater safety and ease with which it is entered, will somewhat shorten the voyage, and the great saving in distance thence to Montreal will insure your main line the greater portion of this business, and affords additional reasons for a road of greater capabilities.

Your road is intended to form a large portion of the line to Quebec nearly equal to

half the distance between the latter place and Montreal, and while it thus composes a part of the main line between the two most populous cities of Canada, it furnishes to both a communication with the sea board, and the means of winter importations. When your main line is extended to Quebec and to the Atlantic, the citizens of both places may make their winter importations with the same regularity and safety as though they were located on the seaboard.

Merchandize going in either direction between Quebec and England during the suspension of the navigation of the St. Lawrence would probably take the shortest and cheapest route.

The people therefore of this part of the province have a direct interest in whatever tends to lessen cost of transportation on your road.

From the general views I have thus taken of the probable course of the trade of your road both to and from the seaboard, I am led to believe that the great mass of merchandize will reach Portland harbor and that with the exception of the Quebec trade it will pass over the whole length of your main line.

If this should prove to be the case, and there appears to be well founded reasons for looking forward to such a result, it is a subject of consideration in determining the gauge of your road, what importance is to be attached to the freight business of the Passumpsic branch compared with the great mass which will go in another direction.

It remains to be considered how far you will be warranted in reference to your peculiar position and the efforts now making to turn the trade from the St. Lawrence above Montreal, and also in regard to the great interest of the public, which is deeply concerned in whatever lessens the cost of transportation, and retains the trade in its legitimate channels; I repeat, it is for you to consider how far it would be wise, under the circumstances to lessen in any degree the capacity of your road.

In discussing the question of gauge as connected with the business of the Passumpsic branch, I have thus far confined my observations to the subject of merchandize transportation.

It now remains to be considered whether the adoption of a different gauge on your road from that of the Passumpsic branch will affect your passenger business unfavorably to afford less accommodation to the travelling public.

I beg leave again to refer to the system of railways in the United States, as perhaps affording the nearest approximation both in construction and management to what will be found from the similarity of the country and the nature of the business to be done, most suitable for Canada.

The line of railway between Boston and Buffalo is as before stated, 535 miles in length and is operated by ten separate corporations.

As every line yet projected from Montreal to Boston nearly resemble this in the proportionate number of corporations, and other circumstances, there appears to be much propri-

ety in referring to the management of passenger business on this line.

A number of these corporations own the passenger, baggage and mail cars jointly.

This arrangement extends from Rochester to Schenectady, a distance of 236 miles. On the remaining distance it is believed that the passenger cars belong to separate companies, each furnishing a proportionable number, if run over several roads.

The same cars run from Buffalo to Rochester, a distance of 73 miles, where a change takes place, the passengers are transferred to other cars; thence to Utica, a distance of 158 miles, the same cars are continued, where another change takes place.

At Schenectady, distant from Utica 78 miles east, there is another change where passengers are placed in the cars of the Schenectady and Troy road, thence to Troy the distance is 19 miles. It is contemplated to extend the cars from Utica to Troy, which will avoid the change at Schenectady.

After arriving at Troy, passengers for Boston take the cars of the Troy and Greenbush company, and again change at East Albany to the cars of the Western and Boston and Worcester roads which run to Boston, a distance of 200 miles.

Here, it will be observed, there are 535 miles of railroad on the same gauge forming one line and operating in connection, yet in this distance, there are five points at which passengers are changed to different cars.

It is as yet, I believe, only proposed to avoid one change. But so far as I have been able to learn there is little difficulty in effecting these changes, or objections raised to them by the travelling community.

On a long line with the proper arrangements for the transfer of baggage, there would be no objection on the part of passengers to a change of cars, for it would be a great relief after a long ride to change from dusty cars to those well cleaned and ventilated.

This transfer would probably take place at points where passengers would be furnished with refreshments or their ordinary meals, and I doubt not the opportunity would be gladly embraced by all as affording relief from the tedious monotony of a long railroad journey. The safety of passengers requires that cars should be run no greater distance than will permit frequent and careful inspection of all their parts, and this cannot well be done except at the end of the journey.

Between Boston and New York, there are changes from road to road, and from road to steamboat, and between New York and Philadelphia, and Philadelphia and Washington the same thing occurs.

These changes are generally looked forward to with pleasure, as it gives variety to the journey without adding to its inconveniences.

Changes are frequent and necessary for cross lines and branches. On the Western road, in Massachusetts, a transfer is made to several important branches, one of which forms a main line to New York.

At the commencement of the journey, the baggage is generally placed in enclosed crates

secure in every respect, each passenger receiving a check properly numbered, and a corresponding check is attached to each trunk or parcel, he is therefore under no apprehension about his baggage whatever the number of changes may be, and at the end of the journey he has only to present his check and his baggage is delivered.

In England it is customary to carry the baggage on the top of the passenger cars, and as every change of car involves a change of baggage, each piece is to be removed separately from the top of one car to that of another.

Frequent changes of this character would I doubt not be highly objectionable, and this I believe constitutes the main argument against a change of passenger cars in England.

But when the baggage is transferred from one road to another without unpacking it or opening the crates, the objections to a change of cars cease.

As an evidence of some of the difficulties of an extended interchange of cars in England, I would refer to the testimony of Mr. Edward Bury, of the London and Birmingham road, before the gauge commissioners. He states that they are put to great inconvenience in consequence of the public not desiring to change, and that the trains are loaded with carriages far beyond what is necessary for the number of passengers. That the average number of passengers in the first class cars is not eight, whereas they will accommodate eighteen.

Mr. Bury further states that in consequence of the great number of foreign carriages on their road, that they have one empty train each way daily, and that they have returned as many as 67 empty cars in one day. This is a very serious and unnecessary tax on the corporation, which in this country should be avoided.

In Canada and the United States, the main lines of railroad, when a great system shall have been perfected, will be more extended, embracing a vast extent of country, and it would be preposterous to attempt an interchange of cars, throughout the two countries or any considerable portion of them, and transfer of both freight and passengers will at various points be unavoidable.

There are now probably over 5000 miles of railways in operation in the United States, and in the management of so extensive a system much valuable experience has been acquired, yet the transfer of passengers on these railways is of common occurrence, and little is ever said about it, simply because the arrangements are ordinarily such as to relieve passengers from any anxiety about their baggage, and otherwise is to them a subject of indifference.

Judging therefore from the experience of these roads, it does not appear probable so far as the passenger business of the Passumpsic branch is concerned, that a difference of gauge at the boundary line would have any effect on the revenue of your road.

With the same gauge I do not think you would find it advisable to allow your passen-

ger cars to go out of the province in this direction.

The distance from Montreal to the boundary line by this branch is about 128 miles; and under the circumstances there appears much propriety in making this point the place of transfer, for it could not be expected, neither is it desirable, that your passenger cars should run over all these roads to Boston.

The statements given in another part of this report relative to the subject of merchandise transportation, will I trust aid somewhat in coming to a conclusion as to the probable amount of freight which will pass over this branch for shipment or for the Boston market. And I will further observe that it is desirable on account of convenience, regularity and despatch of business on your road, that your Boston trade should continue over the whole length of your main line, which, I believe, will be found to be for the interest of the public. The merchandise passing over your road for the Boston market will bear a small proportion to the amount destined for England and other markets; and your main line furnishing a better means of conveyance than the branch for through freight whatever its destination, renders the question of break of gauge on the Passumpsic branch of less importance.

I have already shown that a break of gauge constitutes no objection as it regards passenger business. And in view of your peculiar position with reference to competing lines and the probable course of trade, I am decidedly of the opinion that a break of gauge on the Passumpsic branch at the boundary line is preferable to an exchange of cars, and a sacrifice of the great advantages of a broad gauge on your main line.

There is another and more extended view of the question of gauge which is not only of great interest to your road, but of vital importance to the welfare and prosperity of all the provinces.

Canada and the lower provinces embrace an extent of territory of over 414,000 square miles, with a soil of unsurpassing fertility, possessing great agricultural and mineral resources, and inhabited by a hardy and enterprising population, numbering nearly two million souls. It is watered by the great rivers and lakes of North America, and these waters are teeming with the trade of the surrounding territories.

It requires no prophetic skill to foretell the greatness of a country thus situated, and the vast increase of wealth and prosperity which will attend a full development of its great resources by a judicious system of internal improvement.

Government, with a full appreciation of the importance of this country, and the great natural advantages of the St. Lawrence for cheap transportation, has embarked in a great system of canals, which are equal in importance and magnitude to any in the world.

It is not, however, a question whether the advantages of the St. Lawrence route are such as to retain the trade of the canals only, but it is rather whether these superior facilities shall not attract a large portion of the

trade of the American States bordering on the great lakes.

The rapidly increasing wealth and trade of the west are considerations of the greatest importance to both countries; and it is a question yet to be decided, which of the numerous rival routes to the Atlantic seaboard, will be able to attract the largest share of that trade.

The Atlantic cities, Boston, New York, Philadelphia and Baltimore, with the aid and encouragement of their respective States, are all striving with commendable zeal to secure this great prize.

Baltimore is pressing forward with her great railway, which is destined to scale the Allegheny ridge, and reach the Ohio river at Wheeling.

Philadelphia with all the advantages securing to her by the long line of state canals which reach the Ohio river at Pittsburg, has now embarked in the construction of the Central railroad, which is to perfect the great line of railway communication over the same mountain range to the Ohio river.

In like manner New York with all the incalculable benefits conferred upon her by her magnificent canals and her great central chain of railways, is pressing vigorously forward with her Erie road to reach lake Erie at Dunkirk.

Boston not content with her Great Western road, and the control of the roads composing the great thoroughfare westward in other States, is now extending her arms in other directions, with a view more effectually to secure the western trade. She is advancing with the construction of another road to lake Champlain, thence to the St. Lawrence river at Ogdensburg.

She maintains that the opening of a channel of communication to the St. Lawrence at this point, will secure to her the balance of the trade of the lakes which does not reach her through the Erie and Oswego canals, and the Great Central railroad to Buffalo.

Another line from Cape Vincent opposite Kingston to Rome in the State of New York is in contemplation, where it will unite with both the Erie canal and the New York central line of roads, and thence the trade will reach Boston or New York at the option of the forwarders.

All these vast schemes of internal improvement have for their object the western trade.

Among the rival routes above referred to, there are several which have for their direct object the trade of the St. Lawrence, and will if not counteracted, divert a large portion of it from your canals, and Canada East.

In what light is the Ogdensburg road to be regarded, which is to form a direct railway communication from the St. Lawrence at that place to Boston? The great advantages of this line it is maintained by its friends consists in its ability to divert the trade of the upper province from its legitimate channel, the St. Lawrence.

(To be continued.)

BACK VOLUMES OF THE RAILROAD JOURNAL for sale at the office, No. 105 Chestnut street.

RAILROAD IRON.—500 TONS OF THE latest and most approved pattern of T Rail—weighing about 63 lbs. per yard, shipped from England in October, and shortly expected. For sale by **BOORMAN, JOHNSTON & CO.** 349 119 Greenwich St., New York.

DEAN, PACKARD & MILLS, MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS, SUCH AS

PASSENGER, FREIGHT AND CRANK CARS,

— ALSO —
SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

The above may be had at order at our Car Factory,

REUEL DEAN, ELIJAH PACKARD, } SPRINGFIELD, MASS.

ISAAC MILLS, } 1y48

T TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to 4 in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T, L, and other fixtures to suit, fitting together with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by **MORRIS, TASKER & MORRIS.** Warehouse S. E. Corner of Third & Walnut Streets, PHILADELPHIA.

RAILROAD IRON.—THE NEW JERSEY Iron Company, Boonton, N. J., are now making Railroad Bars, and are prepared to execute orders for any required pattern. Apply to

FULLER & BROWN, Agents, No. 129 Greenwich, corner of Cedar street. June 1, 1847. 101

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON, Willow St. below 13th, Philadelphia, Penna. Nov. 10, 1847. [15]

LAP—WELDED WROUGHT IRON TUBES

FOR

TUBULAR BOILERS,

FROM 1 1/4 TO 6 INCHES DIAMETER,

and

ANY LENGTH, NOT EXCEEDING 17 FEET.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER, Patente.

28 Plau street, New York.

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, Agent.

Spikes are kept for sale, at Factory Prices, by I. & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

••• Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand. ja45

MANUFACTURE OF PATENT WIRE

Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by

JOHN A. ROEBLING, Civil Engineer, Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Ships, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railroad, has now run 4 seasons, and is still in good condition. 92v11y

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.

TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark Arrester recently patented by the undersigned.

Our improved Spark Arrester have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits:

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendent Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendent Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburg and Jackson Railroad, Vicksburg, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. McKee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich.; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hineley & Drury, Boston, will be promptly executed. **FRENCH & BAIRD.** N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. Philadelphia, Pa., April 6, 1844.

••• The letters in the figures refer to the article given in the Journal of June, 1844. ja45

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. **JOHN F. WINSLOW, Agent.**

Albany Iron and Nail Works, Troy, N. Y. The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merriitt, New York; J. H. Whitney, do.; E. J. Eting, Philadelphia; Wm. E. Coffin & Co., Boston. ja45

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Paterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed being large, they are enabled to execute both large and small orders with promptness and despatch.

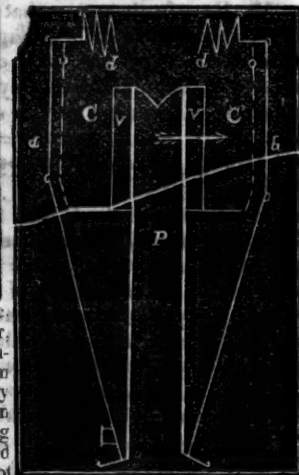
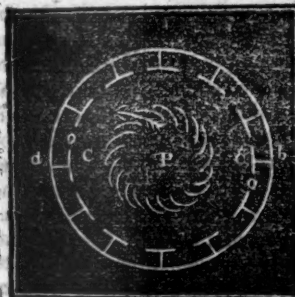
Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery of all descriptions and of the most improved patterns, style and workmanship.

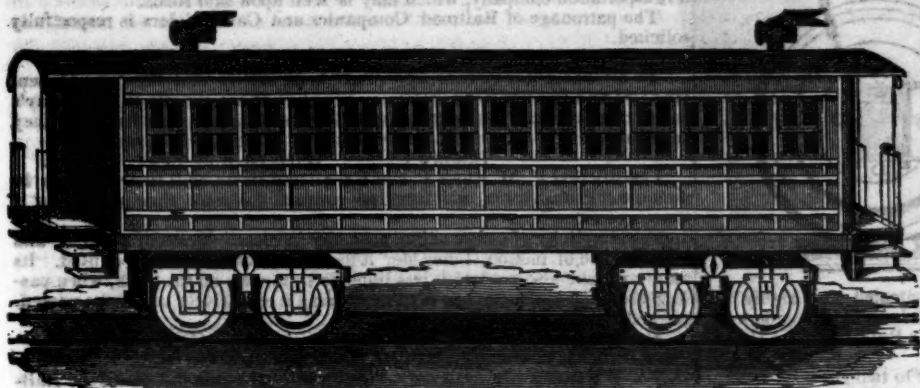
Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callen-lers; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR, Paterson, N. J., or 60 Wall street, N. York. ja45



DAVENPORT & BRIDGES'

CAR WORKS, CAMBRIDGEPORT, MASS.

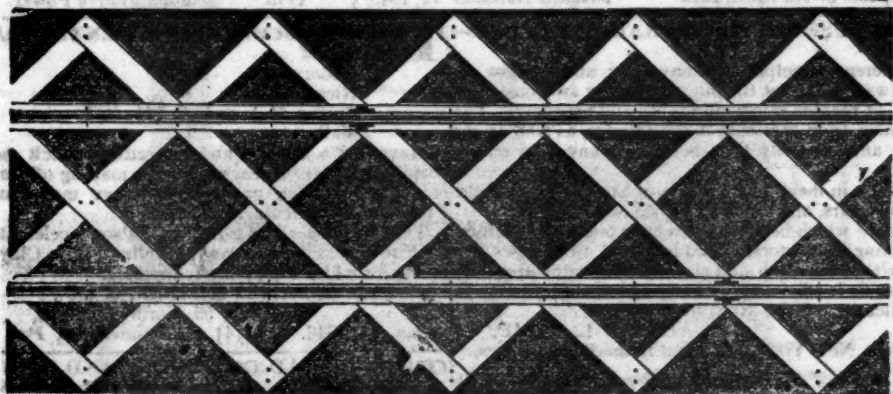


Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes.

THE HERRON RAILWAY TRACK,



As seen stripped of the top ballasting

A GOLD MEDAL AWARDED THE INVENTOR BY THE AMERICAN INSTITUTE.

THE UNDERSIGNED RESPECTFULLY invites the attention of Engineers, and Railroad Companies, to some highly important improvements he has recently made in the Herron system of Railway structure. These improvements enable him to effect a very large reduction in the quantity of Timber, and cost of construction, without impairing the strength of the Track, or its powers of resisting frost, while they secure additional features of excellence in the Drainage and facility of making Repairs.

The above cut represents the "Herron Track" as it is laid on the Philadelphia and Reading, and on the Baltimore and Susquehanna Railroads. The intersection of the sills of the trellis are 5 feet from centre to centre, while in the new construction they are only 2 1/2 feet. This renders the string piece unnecessary, thus removing the only objectionable feature found in the Track.

The result of experience has proved that all Tracks constructed with longitudinal timbers, such as mud sills, and more especially, the continuous bearing string pieces retain the rain water that falls between the Rails, which, being thus confined, settles along those timbers, and accumulating in quantity flows rapidly along them on the descending grades, washing out the earth from under the timber, and frequently causing large breaches in the embankments of the road. Whereas all water intercepted by the oblique sills of the trellis, is discharged immediately into the side ditches.

In the 5 foot plan, the Track occupies a Road bed nearly 14 feet wide, while the new construction takes

but 8 feet; the timber being more concentrated under the Rails. A block of hard wood, about 2 feet long and 15 inches wide, is introduced into a square of the trellis for the purpose of giving an additional, and effectual support to the joints of the Rails, which rest upon it. Should these joint blocks become chafed and worn by the working, and imbedding of the chairs, as is now the case on all Railroads, they can be readily replaced without any derangement of the timbers less liable to wear.

The following is a general estimate of its cost near the seaboard. In the interior it will be considerably less.

ESTIMATE OF THE PROBABLE COST OF ONE MILE.

1,324 Timbers, 11 ft. long, 3 x 6 inches =	
68,696 ft. b.m., at \$10 =	\$686 96
587 Oak joint blocks 2 ft. x 3 x 15 in. =	
4,403 ft. b.m., at \$13 =	57 24
13,000 Spikes = 2,250 lbs. at 4 1/2 cts. =	101 25
Workmanship free of patent charge =	600 00

Cost of one mile including the laying of the Rail = \$1,445 45

He has made other important improvements, which will be shown in properly proportioned models, that give a much better idea of the great strength of the Track than a drawing will do.

Sales of the Patent right to all the distant States will be made on liberal terms.

JAMES HERRON.

Civil Engineer and Patentee.

No. 277 South Tenth St., Philadelphia.

331f

ENGINEERS' AND SURVEYERS' INSTRUMENTS MADE BY EDMUND DRAPER, Surviving partner of STANCLIFFE & DRAPER.



No 23 Pear street, 1710 near Third,

below Walnut, Philadelphia.



THE SUBSCRIBER has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc.

ANDREW MENEELY.

West Troy, May 12, 1847.

17*21

PIG AND BLOOM IRON.—THE SUBSCRIBERS are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,

121f Vine St. Wharf, Philadelphia.

RAILROAD IRON.—THE "MONTGOMERY Iron Company," Danville, Pa., is prepared to execute orders for the heavy Rail Bars of any pattern now in use, in this country or in Europe, and equal in every respect in point of quality. Apply to

MURDOCK, LEAVITT & CO.,

1548 77 Pine St., New York.

LAWRENCE'S ROSENDALE HYDRAULIC CEMENT. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Floors and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight paper-barrels, by

JOHN W. LAWRENCE,

142 Front street, New York.

Orders for the above will be received and promptly attended to at this office. 3217

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by

A. & G. RALSTON

Mar. 201f 4 South Front St., Philadelphia.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars, Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention.

ANDREW C. GRAY,

445 President of the Newcastle Manuf. Co.

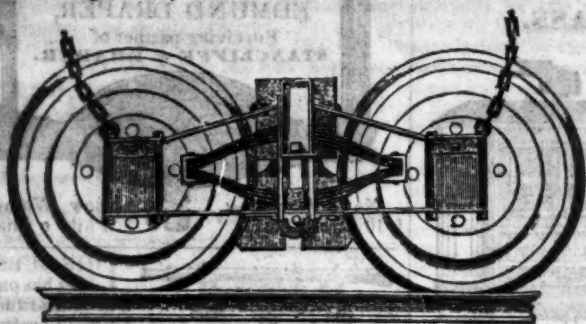
LOCOMOTIVE AND CAR AXLES. The Subscribers are now prepared to receive orders for the well known and approved Reading Locomotive and Car Axles—drawn to any required pattern from Bloom Iron only. Address

SAM'L KIMBER & CO.,

Willow Street Wharf, Philadelphia, Pa.

RAY'S EQUALIZING RAILWAY TRUCK.—THE SUBSCRIBER

bar having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East

ENGLISH PATENT WIRE ROPES—FOR THE USE OF MINES, RAILWAYS, ETC.—

For sale or imported to order by the subscriber. These Ropes are manufactured on an entirely different principle from any other, and are now almost exclusively used in the collieries and on the railways in Great Britain, where they are considered to be greatly superior to hempen ones, or iron chains, as regards safety, durability and economy. The plan upon which they are made effectually secures them from corrosion in the interior, as well as the exterior of the rope, and gives a greater compactness and elasticity than is found in any other manufacture.

Many of these ropes have been in constant operation in the different mines in England, and on the Blackwall and other inclined planes, for three and four years, and are still in good condition.

They have been applied to almost every purpose for which hempen ropes have been used—mines, heavy cranes, standing rigging, window cords, lightning conductors, signal halyards, tiller ropes, etc. Reference is made to the annexed statement for the relative strength and size. Testimonials from the most eminent engineers in England can be shown as to their efficiency, and any additional information required respecting the different descriptions and application will be given by

ALFRED L. KEMP,
75 Broad street, New York, sole agent in the United States.

Statement of Trial made at the Woolwich Royal Dock Yard, of the Patent Wire Ropes, as compared with Hempen Ropes and Iron Chains of the same strength.—October, 1841.

WIRE ROPES.			HEMPEN ROPES.			CHAINS.		STRENGTH
Wire gauge number.	Circumference of rope.	Weight per fathom.	Circumference of rope.	Weight per fathom.		Weight per fathom.	Diameter of iron.	
	INCH.	LBS. OZ.	INCH.	LBS. OZ.		LBS.	INCH.	Tons.
11	4 1/2	13 5	10	24 -		50	15-16	20
13	3 1/2	9 3	8 1/2	16 -		27	11-16	13 1/2
14	3 1/4	6 11	7 1/2	12 8		17	9-16	10 1/2
15	2 3/4	5 2	6 1/2	9 4		13 1/2	1-2	7 1/2
16	2 1/2	4 3	6	8 8		10 1/2	7-16	7

N.B. The working load, with a perpendicular lift, may be taken at 6 cwt. for every lb. weight per fathom, so that a rope weighing 5 lbs. per fathom would safely lift 3360 lbs., and so on in proportion. 1y24

RAILROAD SCALES.—THE ATTENTION of Railroad Companies is particularly requested to Ellicott's Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of 20 years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.

Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
Philadelphia, Pa.

1y23

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee
G. A. NICOLLS,
Reading, Pa.

ja45

river, (of which firm the subscriber was late a partner) under the immediate supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846.

W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the best and most economical truck now in use.

[Signed,]

WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845.

[Signed,] G. A. NICOLL,

Sup't Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use.

[Signed,] T. L. SMITH,

Jersey City, November 4, 1845.

N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car. For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot,

[Signed,]

JOHN LEACH,

Jamaica November 12, 1845.

1y19

Sup't Motive Power.

THE SUBSCRIBERS, AGENTS FOR

the sale of
Codorus,
Glendon,
Spring Mill and
Valley, } Pig Iron.

Have now a supply, and respectfully solicit the patronage of persons engaged in the making of Machinery, for which purpose the above makes of Pig Iron are particularly adapted.

They are also sole Agents for Watson's celebrated Fire Bricks and prepared Kaolin or Fire Clay orders for which are promptly supplied.

SAM'L. KIMBER, & CO.,

59 North Wharves,

Jan. 14, 1846.

[1y4]

Philadelphia, Pa.

TO RAILROAD COMPANIES AND MANUFACTURERS of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside.

THOMAS & EDMUND GEORGE,
No. 45 N. E. cor. 12th and Market sts., Philad., Pa.

TO LOCOMOTIVE AND MARINE ENGINE BOILER BUILDERS. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufacture and for sale by

MORRIS TASKER & MORRIS,

Warehouse S. E. corner 3d and Walnut Sts., Philadelphia.

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc.

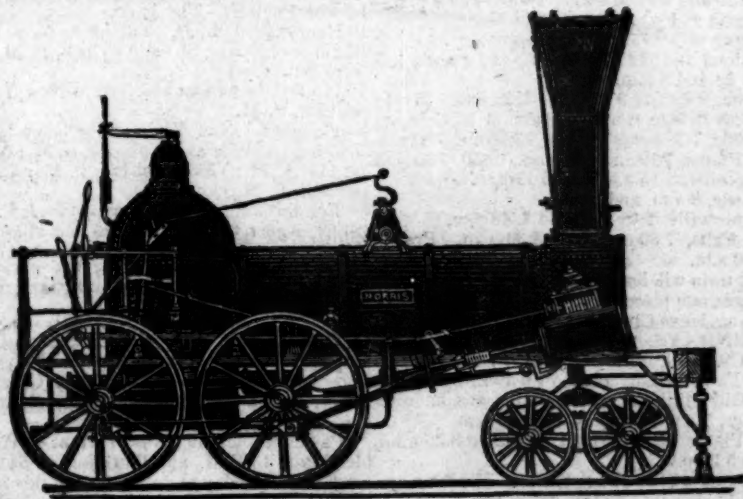
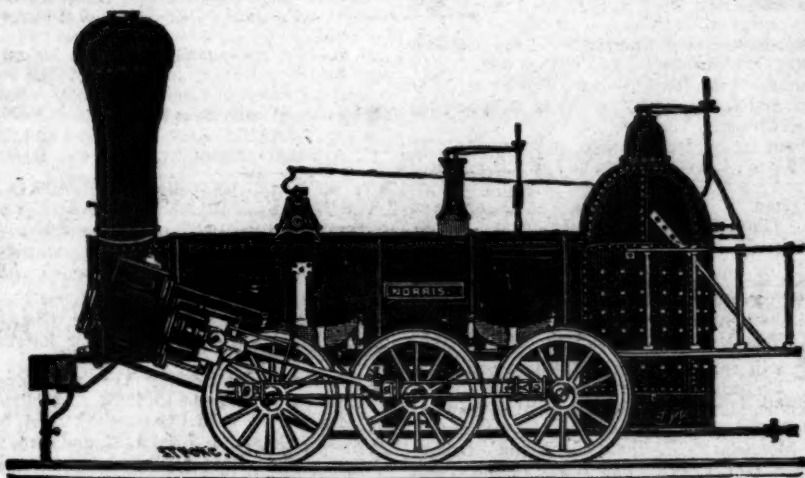
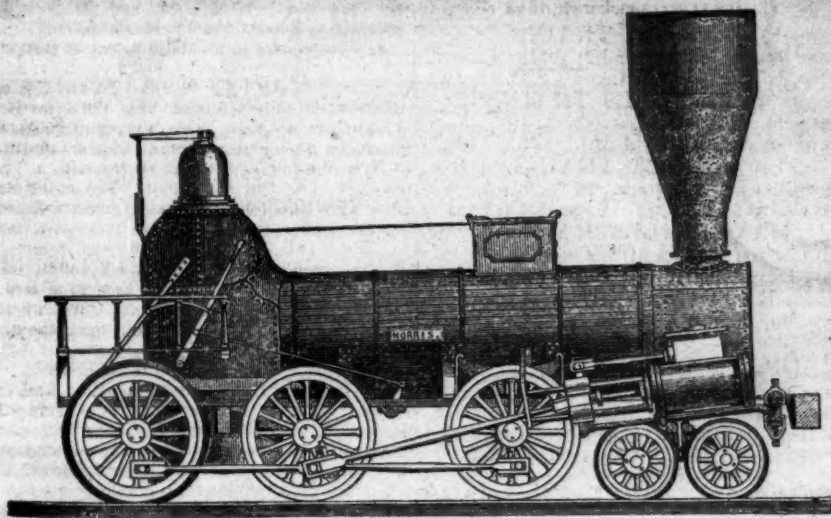
PETER COOPER 17 Burling Slip.

1y10

New York.

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,



MANUFACTURE to order Locomotive Steam Engines of every plan or size. Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusual advantages for prompt delivery of Machinery of superior workmanship and finish. Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality. Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 14 to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 281f

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engaged in manufacturing Spring Steel from 14 to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, Agent,
Albany Iron and Nail Works,

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phoenix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
No. 79 Water St., New York. 261f

PATENT INDESTRUCTIBLE WATER Pipes. The subscribers continue to manufacture the above Pipes, of all the sizes and strength required for City or Country use, and would invite individuals or companies to examine its merits.—This pipe, unlike cast iron and lead, imparts neither color, oxide or taste, being formed of strongly riveted sheet iron, and evenly lined on the inside with hydraulic cement. While in the process of laying, it has a thick covering externally of the same—thus forming nature's own conduit of stone. The iron being thoroughly encased on both sides with cement, precludes the possibility of rust or decay, and renders the pipe truly indestructible. The prices are less than those of iron or lead. We also manufacture Basins and D. Traps, for Water Closets, on a new principle, which we wish the public to examine at 112 Fulton street, New York. 281f

J. BALL & CO.

KEARNEY FIRE BRICK. F. W. BRINLEY, Manufacturer, Perth Amboy, N. J. Guaranteed equal to any, either domestic or foreign. Any shape or size made to order. Terms, mos. from delivery of brick on board. Refer to—

James P. Allaire,	} New York.
Peter Cooper,	
Murdock, Leavitt & Co.	
J. Triplett & Son, Richmond, Va.	}
J. R. Anderson, Tredegar Iron Works, Richmond, Va.	
J. Patton, Jr.	} Philadelphia, Pa.
Colwell & Co.	
J. M. L. & W. H. Scovill, Waterbury, Conn.	}
N. E. Screw Co.	
Eagle Screw Co.	} Providence, R. I.
William Parker, Supt. Bost. and Wore. R. R.	
New Jersey Malleable Iron Co., Newark, N. J.	}
Gardiner, Harrison & Co. Newark, N. J.	

25,000 to 30,000 made weekly. 38

PATERSON RAILROAD
Summer Arrangement.
Commencing April 20th, 1847, the cars will leave
Paterson at New York at
8 o'clock a.m. 9 1/2 o'clock a.m.
11 1/2 o'clock a.m. 12 1/4 o'clock p.m.
4 o'clock p.m. 5 1/2 o'clock p.m.
On Sunday.
8 o'clock a.m. 9 1/2 o'clock a.m.
4 o'clock p.m. 5 1/2 o'clock p.m.
Office 75 Courtlandt St. 251f

WESTERN RAILROAD.—ON AND AE

After Monday, April 5, 1847, the passenger trains will leave daily, Sundays excepted, as follows:

Albany at 7 1-4 a. m. and 5 p. m. for Boston.
Springfield at 8 1-2 a. m. and 1 p. m. for Albany.

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives

in New York at 7 p. m., by the steamboats Traveler, New York, or Champion. Returning, leaves

New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Albany and Troy.—Leave Boston at 8 a. m.

Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next

morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.
The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m. For Northampton, Greenfield, etc.—The trains of

the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro, Windsor, Ball's Falls

For Hartford.—The trains leave Springfield on

The trains of Pittsfield and North Adams Rail-



road leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of \$50.00.

apparel not exceeding the value of fifty dollars, unless by special agreement.

C. A. SEAD, Agent, 27 State street, Boston.

NEW YORK AND ERIE RAILROAD LINE
SUMMER ARRANGEMENT. For passen-

 gers, twice each way daily,
(except Sunday,) leave New 

York from the foot of Duane St. at 7 o'clock, A. M.
and at 4 o'clock, P. M. by steamboat, for Piermont,

thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30. A. M. and 4 15. P. M.: Middletown at

7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, \$1 50;
way-fare in proportion.

FOR MILK—Leave Otisville at 5½ o'clock, morning and evening.

FOR FREIGHT—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock P. M. daily (ex-

No freight will be received in New York after 5

Freight for New York will be taken by the trains

leaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New

SON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24th H. C. SEYMOUR, Sup't.
GREAT SOUTHERN MAIL LINE, VIA

G Washington city, Richmond, Petersburg, Wel-
don and Charleston S. C. direct to New Orleans.

The only Line which carries the Great Southern Mail, and Twenty-four Hours in advance of Bay

Line, leaving Baltimore same day.
Passengers leaving New York at 4 P.M., Phila-

delphia at 10 P.M., and Baltimore at 6½ A.M., proceed without delay at any point, by this line, reach-

ing Richmond in *eleven*, Petersburg in *thirteen* and a half hours, and Charleston, S. C., in *two* days from Baltimore.

Fare from Baltimore to Charleston.....	\$21 00
" " " Richmond.....	6 60

For Tickets, or further information, apply at the
Southern Ticket Office, adjoining the Washington

Railroad Office, Pratt street, Baltimore, to
1914 **STOCTON & FALLS, Agents.**

11

BALTIMORE AND OHIO RAILROAD.

MAIN STEM.

The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and arrives at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburg and Hancock, connecting daily each way with the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points \$7, and 4 cents per mile for less distances. Fare through to Wheeling \$11 and time about 36 hours, to Pittsburgh \$10, and time about 32 hours. Through tickets from Philadelphia to Wheeling \$13, to Pittsburgh \$12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M. from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare \$1.60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. \$13y1

LITTLE MIAMI RAILROAD COMPANY.

Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Millford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Cincinnati at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road.....33 "

From Bellefontaine to Sandusky city by railroad.....102 "

FARE—From Cincinnati to Lebanon....\$1 00
" " " Xenia.....1 50
" " " Springfield...2 00
" " " Columbus...4 00
" " " Sandusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every \$500 in value over that amount.

W. H. CLEMENT, Sup't.

BALTIMORE AND SUSQUEHANNA RAILROAD.

Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger

trains run daily, except Sunday, as follows:
Leaves Baltimore at.....9 a.m. and 3½ p.m.
Arrives at.....9 a.m. and 6½ p.m.
Leaves York at.....5 a.m. and 3 p.m.
Arrives at.....12½ p.m. and 8 p.m.
Leaves York for Columbia at.....1½ p.m. and 8 a.m.
Leaves Columbia for York at.....8 a.m. and 2 p.m.

FARE.

Fare to York.....\$1 50
" Wrightsville.....2 00
" Columbia.....2 12½
Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg.....\$9
Or via Lancaster by railroad.....10
Through tickets to Harrisburg or Gettysburg...3
In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owings' Mill, arriving at the Mills at.....5½ p.m.
Returning, leaves Owings' Mills at.....7 a.m.
D. C. H. BORDLEY, Sup't.
31 1y Ticket Office, 63 North st.

LEXINGTON AND OHIO RAILROAD.

Trains leave Lexington for Frankfort daily, at 5 o'clock a.m., and 2 p.m.

Trains leave Frankfort for Lexington daily, at 8 o'clock a.m. and 2 p.m. Distance, 28 miles. Fare \$1.25.

On Sunday but one train, 5 o'clock a.m. from Lexington, and 2 o'clock p.m. from Frankfort.

The winter arrangement (after 15th September to 15th March) is 6 o'clock a.m. from Lexington, and 9 a.m. from Frankfort, other hours as above. 351y

CENTRAL AND MACON AND WESTERN RAILROADS, GA.—These Roads with the Western and Atlantic Railroad

of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

Savannah to Macon—Central Railroad.....190
Macon to Atlanta—Macon and Western.....101
Atlanta to Oothcaloga—Western and Atlantic...80
Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings.....	To Atlanta.	To Oothcaloga.
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones.....	\$0 50	\$0 75
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot.....	0 50	0 62½
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot.....	0 20	0 26
Crockery, per cubic foot.....	0 15	0 35
Molasses and Oil, per hhd., (smaller casks in proportion). 9 00	12 50	
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each.....	1 25	1 50
Ploughs, (small,) and Wheelbarrows.....	0 80	1 05
Salt, per Liverpool Sack.....	0 70	0 95

Passage—Savannah to Atlanta, \$10; Children, under 12 years of age, half price, Savannah to Macon, \$7.

Goods consigned to the subscriber will be forwarded free of Commissions.

Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, Forwarding Agent, C. R. R. Savannah, At 7. 15th, 1846. 1y34

CENTRAL RAILROAD—FROM SAVANNAH to Macon. Distance 190 miles.

This Road is open for the transportation of Passengers and Freight. Rates of Passage, \$8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods..... 13 cts. per cubic ft.

On brls. wet (except molasses and oil).....\$1 50 per barrel.

On brls. dry (except lime)... 80 cts. per barrel.

On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred.

On hhd. and pipes of liquor, not over 120 gallons.....\$5 00 per hhd.

On molasses and oil.....\$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE, y40 Gen'l. Sup't. Transportation.

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from

Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily.....\$26 50

Fare through from Charleston to Huntsville, Decatur and Tuscumbia.....22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

JOHN KING, Jr., Agent.

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Railroad.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT, Chief Engineer.

Atlanta, Georgia, April 16th, 1846. 1y1

NEW YORK AND PHILADELPHIA RAILROAD line—direct. Via Newark, New Brunswick, Princeton, Trenton, and Bristol. (Through in six hours.) Leaving New York daily from the foot of Liberty street.

Morning line.....9 o'clock a.m.
Mail pilot line.....4½ " p.m.

The lines proceed direct to Bristol without change of cars, and thence by the new steamer, "John Stevens," to Philadelphia.

FARE BETWEEN NEW YORK & PHILA.

First class cars.....\$4 00
Second class cars.....3 00

Passengers will procure their Tickets at the office foot of Liberty st., where a commodious steamboat will be in readiness with Baggage-crates on board.

Fifty pounds of baggage will be allowed to each passenger in this line, and passengers are expressly prohibited from taking anything as baggage but their wearing apparel, which will be at the risk of the owner.

Philadelphia Baggage-crates are conveyed from city to city, without being opened by the way. Each train is provided with a car, in which are apartments and dressing rooms expressly for ladies' use.

Returning, the lines leave Philadelphia from the foot of Walnut st. at 9 a.m., and 4½ p.m.

The lines for Baltimore leave Philadelphia daily except Sundays, at 8 a.m., 3½ and 10 p.m., and 8½ days only at 10 p.m.—being a continuation of the line from New York.

254

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for 1847.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville, 92		\$3.50 and \$3.00	
" " Reading, 58		2.25 and 1.90	
" " Pottsville, 34		1.40 and 1.20	

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1847.

Summer Arrangement.

Philadelphia for Baltimore... 8 a.m. and 10 p.m.
Baltimore for Philadelphia... 9 a.m. and 8 p.m.

Connecting with Mail Lines North, South & West.

On Sundays, only the 10 P. M. Lines run.

The Boat Lines, via Newcastle & Frenchtown R.R. Leave Philadelphia at 3 p.m. No line on Sun-Leave Baltimore at 3 p.m. day.

Accommodation Trains between Philadelphia & Wilmington.—Philadelphia to Wilmington, 8 a.m., mail, 12 p.m., 4 p.m., 7 p.m., 10 p.m. mail. Wil-

mington to Philadelphia, 7 a.m., 1 p.m., mail, 4 p.m., 7 p.m., 12 a.m., night mail.

J. R. TRIMBLE,
Engineer and General Superintendent.

GEORGIA RAILROAD. FROM AUGUSTA TO ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.

This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

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RATES OF FREIGHT

On CHANDLER'S Through Transportation Line, between Charleston, S. C., or Savannah, Ga., and Decatur, Ala., and Knoxville, Tenn., and all intermediate points on the Tennessee River, viz:

Between Macon and Decatur and intermediate points.	0 22 1/2	1 54	1 05	0 81	0 86
Between Macon and Knoxville & intermediate points.	0 22 1/2	1 54	1 10	0 76	0 86
Between Macon and Chattanooga.				0 61	0 86
Between Augusta and Decatur and intermediate points.	\$0 24	1 70	1 15	0 85	0 90
Between Augusta and Knoxville & intermediate points.	\$0 24	1 70	1 20	0 80	0 90
Between Augusta and Chattanooga.				0 65	0 90
Between Charleston or Savannah and Decatur and intermediate points.	\$0 32	2 20	1 35	1 05	1 10
Between Charleston or Savannah and Knoxville & intermediate points.	\$0 32	2 20	1 40	1 00	1 10
Between Charleston or Savannah and Chattanooga.				0 85	1 10

1st class.—Boxes of Hats, Bonnets and Furniture per foot.....
2d class.—Boxes and Bales of Dry Goods, Shoes, Saddlery, Glass, Paints, Oils, (in cans) Drugs, Confectionaries, Shovels, Spades, Seythes, Smiths' Bellows, Baskets, Tubs, Sifters, Brooms and other light articles, per 100 lbs..
3d class.—Molasses, Sugar, Coffee, Liquor, Bagging, Rope, Cheese, Tobacco, Leather, Feathers, Hides, Wool, Copper, Tin, Sheet-iron, Nails, Casts, or Crates of Crockery, Hardware, and other heavy articles not enumerated below.
4th class.—Flour, Bacon, (in casks or boxes) Pork, Beef, Lard, Tallow, Butter, Beeswax, Bales of Rags, Ginseng, Green and Dried Fruit, (in casks or sacks) Pig-iron and Linseed Oil, per 100 lbs.....
Per 100 lbs.....
Cotton.

Merchandise shipped from any of the northern ports, must be consigned to R. R. AGENT, CHARLESTON, S. C., or R. R. AGENT, SAVANNAH, GA.: and every package must be marked, care of B. CHANDLER, Chattanooga.

Charges will accompany the goods, and be collected by the boats on the Tennessee river, when delivered to the owner or consignee.

No preference in the way of despatch, will be given to any produce intended for their line, but each lot will be sent off as it is received.

The warehouse of the undersigned will be enlarged during the summer, and an apparatus attached for hoisting or lowering freight to the river, without soil or injury.

He will have a train of wagons under his entire control, sufficient to conduct the fall business with great despatch.

B. CHANDLER.
Chattanooga, Tenn., July 1, 1847.

REGULAR RATES BETWEEN ATLANTA AND CHARLESTON OR SAVANNAH.

First class, per foot.....	\$0 20
Second class, per 100 lbs.....	1 20
Cotton, per 100 lbs.....	0 55
Third class, per 100 lbs.....	0 60
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